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10/559,798

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Andreas Tagesson

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HARRITY & HARRITY, LLP
11350 RANDOM HILLS ROAD
SUITE 600
FAIRFAX, VA 22030

EXAMINER

NGUYEN, SIMON

ART UNIT

PAPER NUMBER

2618

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07/29/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|----------------------------------------|--|
| Office Action Summary | Application No. 10/559,798 | Applicant(s) TAGESSON ET AL. | |
| | Examiner SIMON D. NGUYEN | Art Unit 2618 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14, 16, 17 and 19-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14, 16-17, 19-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment under 37 CFR 1.132 filed 4/29/09 is insufficient to overcome the rejection of claims 14, 16-17, 19-29 based upon Boesch and Ono references as set forth in the last Office action because: Boesch discloses at least one switch (Boesch discloses two switches 422, 426 connected between the signal generating chip (402, 412) and the signal processing chip (404, 414) (figs. 4-7) for breaking connections on respectively frequency bands of 1900 MHz/800 MHz (see more details in the response to the arguments below).

Response to Arguments

2. Applicant's arguments filed 1/6/09 have been fully considered but they are not persuasive.

According to the Applicant's Remarks, Boesch fails to teach or suggest at least one switch connected between the signal generating unit and the signal processing unit to break the first and second connections of the first and second frequency bands, respectively.

Firstly, Boesch, in figs 4, 6, and 7 discloses the same technique of switching on/off between two frequency bands to be transmitted, discloses a first connection between a generating circuit and a processing circuit (amplifier 702,712, 604,414) via switch 722 for transmitting a 1900-MHz TDMA band and a second connection between

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the generating circuit (710,720) and the processing circuit (702, 712, 604, 414) via switch 726 for transmitting a 800-MHz band, wherein the switches 722, 724 will be broken when the 800-MHz band transmitting on the second connection and the switches 724 and 726 will be broken when the 1900-MHz TDMA band transmitting on the first connection (column 8 lines 20-47, column 10 line 11-51).

Furthermore, in fig. 8, Boesch discloses a power amplifying circuit 800, in low band signals, there are two connections between a generating circuit (for example, 715) and the amplifying circuit (802, 912 of PA 800), for TDMA operation, switch 822 is closed while switch 824 is open to pass the TDMA signal from the generating circuit to the amplifying circuit. In the case of the 800-MHz band, switch 822 is open while switch 824 is closed caused the 800-MHz signals to pass from the generating circuit to the amplifying circuit (column 11 lines 25-49).

Secondly, Adar alone discloses a multi-band amplifier in a transmitter having at least one switch located between the signal generating unit and the signal processing unit (PA) (158 of figs. 4, 5b, d) or 249 of figs. 6-7), wherein the switch is used to break the first and second connections respectively to the first and second transmission frequency bands. Adar in figs. 5a discloses for a generating 800 MHz signal to transmit to the amplifier 152, switch 190 is closed and switch 192 is open. For the generating 1900 MHz signal to transmit to the amplifier, switch 190 is open and switch 192 is closed. Furthermore, In fig.4, Adar discloses one switch for connecting either 800 MHz signal or 1900 MHz signal, for a generating 800 MHz signal to transmit to the amplifier, the switch 154 is closed on a first connection (via 160) and for the generating 1900 MHz

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signal to transmit to the amplifier, the switch 158 is closed on a second connection 162. (abstract, column 1 lines 4-6, column 2 lines 1-15, column 6 lines 8-25, 35-55, column 9 lines 57-62). It should be noted that a signal generating unit or a modulator is inherently in a transmitter; Adar further discloses the power amplifier chip (the processing chip) (column 12 line 64).

From the cited portions above, Boesch and Adar, each alone teaches “at least one switch connected between the signal generating unit and the signal processing unit in which when transmitting the signals in the first frequency band on the first connection, breaking the second connection between the signal generating circuit and the signal processing circuit and when transmitting the signals in the second frequency band on the second connection, breaking the first connection between the signal generating circuit and the signal processing circuit.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 14, 16, 17, 22, 23, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boesch et al. (6,188,877) in view of Ono et al. (7,139,538).

Regarding claims 14, 16, 17, 22, 23, and 27, Boesch discloses a multi-band amplifier in a transmitter (abstract, figs. 7, 8), comprising: transmitting a 800 MHz signal

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band in a first connection to a signal processing unit (power amplifier (combined 702, 212, 414, 604); transmitting a 1900 MHz signal band in a second connection to a power amplifier; breaking the second connection to allow only the 800 MHz signal band to connect to the power amplifier by closing switch 724 and opening switches 722, 724 or connecting to the 19 MHz signal band by closing switch 722 and opening switches 724, 726, wherein the transmission signals are modulated which means the transmitter inherently comprises a modulator (figs. 4, 7, abstract, column 8 lines 20-47, column 10 line 11-51), wherein Boesch further discloses a power amplifying circuit 800, in low band signals, there are two connections between a generating circuit (for example, 715) and the amplifying circuit (802, 912 of PA 800), for TDMA operation, switch 822 is closed while switch 824 is open to pass the TDMA signal from the generating circuit to the amplifying circuit. for a 800-MHz band, switch 822 is open while switch 824 is closed caused the 800-MHz signals to pass from the generating circuit to the amplifying circuit (column 11 lines 25-49), wherein Boesch discloses a power amplifying circuit (800 of fig. 8). However, Boesch does not discloses the generating unit as the generating chip and the processing unit as the processing chip, and the two bands provided by a same network.

Ono discloses a dual band transceiver (fig.1) using to communication with a base station (column 5 lines 35-38, column 6 lines 25-26) (which obviously means that the dual band transceiver provided by the same base station), wherein the dual band transceiver comprises a generating circuit chip (RF IC 110) and a power amplifying chip (200) (figs. 1, 2, 7-8, 10, column 4 lines 26-67, column 9 lines 30-67, column 10

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lines 29-51). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have Boesch, modified by Ono in order to save space as well cost of the transceiver.

5. Claims 14, 16-17, 20-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adar (5,774,017) in view of Ono (7,139,538).

Regarding claim 14, Adar discloses a multi-band amplifier in a transmitter (column 1 lines 4-6, fig. 5A, abstract), comprising: transmitting a 800 MHz signal band in a first connection to a signal processing unit (power amplifier (152); transmitting a 1900 MHz signal band in a second connection to a power amplifier; breaking the second connection to allow only the 800 MHz signal band to connect to the power amplifier by turning off switch 192 or vice versa (fig. 5A, column 1 lines 4-6, column 2 lines 1-15, column 6 lines 8-25, 35-55, column 9 lines 57-62). It should be noted that a signal generating unit or a modulator is inherently in a transmitter; Adar further discloses the power amplifier chip (the processing chip) (column 12 line 64). However, Adar does not specifically disclose the generating unit as the generating chip and the two bands provided by a same network.

Ono discloses a dual band transceiver (fig.1) using to communication with a base station (column 5 lines 35-38, column 6 lines 25-26) (which obviously means that the dual band transceiver provided by the same base station), wherein the dual band transceiver comprises a generating circuit chip (RF IC 110) and a power amplifying chip (200) (figs. 1, 2, 7-8, 10, column 4 lines 26-67, column 9 lines 30-67, column 10

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lines 29-51). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have Adar, modified by Ono in order to save space as well cost of the transceiver.

Regarding claims 16, this claim is rejected for the same reason as set forth in claim 14, wherein the PA receives either the 800 MHz or 1900 MHz signal bands.

Regarding claim 17, this claim is rejected for the same reason as set forth in claim 14, wherein Adar discloses the processing circuit as a power amplifying chip (column 12 line 64, column 13 line 57).

Regarding claims 22, and 27, these claims are rejected for the same reason as set forth in claim 14.

Regarding claim 23, this claim is rejected for the same reason as set forth in claim 17.

Regarding claim 19 Adar further discloses RF switches (190, 192) for connecting/disconnecting either one of the two-transmission signals (fig. 5A).

Regarding claim 20, Adar discloses different modulation techniques for 800MHz and 1900 MHz (column 1 lines 46-54), which means the transmitter inherently comprises a modulator for generating the 800 or 1900 MHz signal bands).

Regarding claim 21, Adar further discloses the signal processing unit as a PA (fig. 5A, column 4 line 50).

Regarding claims 24-26, Adar further discloses the system can be applied in a cellular phone, a base station (column 2 lines 1-32, column 6 lines 28-35).

Regarding claim 28-29, Adar further discloses the devices used in EGSM and DCS bands (column 1 line 17 to column 2 line15).

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Simon Nguyen whose telephone number is (571) 272-7894. The examiner can normally be reached on Monday-Friday from 7:00 AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen, can be reached on (571) 272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

July 27, 2009

/SIMON D NGUYEN/
Primary Examiner, Art Unit 2618